This application has been reviewed in light of the Office Action dated May 7, 2007. Claims 1-3 and 5-18 are presented for examination, of which Claims 1, 5, 10 and 16 are in independent form. Claims 1, 5, 10 and 16 have been amended to define still more clearly what Applicants regard as their invention. Claim 6 has been amended as to matters of form; no change in scope is either intended or believed effected by at least these changes. Favorable reconsideration is requested.

The specification has been amended to conform the Summary of Invention section to the amended claims.

Claims 1-3, 5-9 and 16-18 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Office Action states that the recitation "'input three-dimensional position information of a plurality of positions inputted by moving a real object in the real space by the user' is not conveyed by the originally filed disclosure because an object is different than the stylus discussed at paragraph [0028] that would be moved by a user." Similarly, the amendment to the specification was objected to under 35 U.S.C. § 132(a) on the same ground.

Applicants respectfully submit that the rejected claims are sufficiently described in the originally filed specification since that specification is not limited to use of a stylus. For example, paragraph [0028] makes clear that "[t]he present invention is not restricted to such three-dimensional pointing devices, rather, any arrangement may be applied as long as constraining shapes in real space can be precisely modeled...." In addition, paragraph [0041], for example, further states that "[t]he present invention is not restricted to methods for selecting this

operation by button operation of the stylus, and may be applied to methods wherein selection is made from other input devices such as a mouse or keyboard or the like." Accordingly, one of ordinary skill in the art would have recognized that the present invention is not limited to use of a stylus to input three-dimensional position information. In view of the above, Applicants request withdrawal of the rejection of the claims under Section 112 and the objection to the specification under Section 132(a).

Claims 1-3 and 5-18 were rejected under 35 U.S.C. § 102(b) as being anticipated by Yoshifumi Kitamura et al., "Consolidated Manipulation of Virtual and Real Objects", September 1997, Proceedings of the ACM Symposium on Virtual Reality Software Technology, pgs. 133-138 (Kitamura).

As shown above, Applicants have amended independent Claims 1, 5, 10 and 16 in terms that more clearly define what they regard as their invention. Applicants submit that these amended independent claims, together with the remaining claims dependent thereon, are patentably distinct from the cited prior art for at least the following reasons.

Claim 10 is directed to an information processing method for changing the position and orientation of a virtual object in mixed reality space obtained by combining a real space and a virtual space. The method includes the steps of: (1) obtaining three-dimensional position information of a plurality of positions designated by an operating unit moved by a user in the real space, the operating unit being capable of measuring the position and orientation; (2) determining an input of a constraining shape or an operation of the virtual object; (3) obtaining a constraining shape by using a shape generated based on the obtained three-dimensional position information in case of the input of the constraining shape; (4) changing the position and

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orientation of the virtual object according to instructions from the user, based on the obtained constraining shape as constraint condition in case of the operation of the virtual object; and (5) combining an image of the virtual object generated according to the changed position and orientation, and the real image, to obtain a mixed reality image.

Among other notable features of Claim 10 are: (1) obtaining three-dimensional position information of a plurality of positions designated by an operating unit moved by a user in the real space, the operating unit being capable of measuring the position and orientation; (2) determining an input of a constraining shape or an operation of the virtual object; (3) obtaining a constraining shape by using a shape generated based on the obtained three-dimensional position information in case of the input of the constraining shape; (4) changing the position and orientation of the virtual object according to instructions from the user, based on the obtained constraining shape as constraint condition in case of the operation of the virtual object.

Kitamura relates to a method of manipulating virtual and real objects in mixed reality by employing a limited number of physical laws selected and simulated for virtual objects and introducing limitations on the physical laws for real objects. Kitamura discusses manipulating the virtual object in mixed reality (Fig. 2) using a six degrees of freedom (DOF) tracker (Kitamura, p. 135). "The shape of the real object is known in advance" and the "DOF of the virtual object's motion is dynamically constrained on the surface of the collided objects." (Kitamura, p. 135). Kitamura also discusses detecting object collision using a method of real-time colliding face detection of polydedral objects with complicated shapes. However, Kitamura discloses that the constraining shape as constraint condition is calculated based on the geometric model of the object, which is kept in advance, and does not even suggest creating the

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constraining shape in accordance with the instruction of a user who manipulates the virtual object, as shown in the present invention. Thus, Applicants have found nothing in Kitamura that would teach or suggest "obtaining three-dimensional position information of a plurality of positions designated by an operating unit moved by a user in the real space, the operating unit being capable of measuring the position and orientation," "determining an input of a constraining shape or an operation of the virtual object," "obtaining a constraining shape by using a shape generated based on the obtained three-dimensional position information in case of the input of the constraining shape" or "changing the position and orientation of the virtual object according to instructions from the user, based on the obtained constraining shape as constraint condition in case of the operation of the virtual object," as recited in Claim 10.

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as a reference against Claim 10.

Independent Claims 1, 5 and 16 recite features similar to those discussed above with respect to Claim 10 and, therefore, are also believed to be patentable over Kitamura for the reasons discussed above.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request

favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

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